

**New genera and species of *Acridoidea*  
from Madagascar  
(Orthoptera)**

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SYNOPSIS.

Four new genera and five species of Acrididae (*Acridoidea*, Orthoptera) from Madagascar are described. Their interrelation and affinities with other genera are briefly discussed.

***Acutacris* gen. n.**

Small. Body narrow, slender. Integument finely rugose. Antenna filiform, slightly compressed in basal third, longer than head and pronotum together. Head narrow, elongated acutely conical. Fastigium of vertex twice as long as its width at base, acutely angular, separated from vertex by semicircular depression. Frons strongly oblique and in profile incurved; frontal ridge low, narrow, shallowly sulcate, in front of antennae lamelliformly compressed. Ocelli very small, poorly developed. Compound eyes large, oval, strongly convex. Pronotum cylindrical; dorsum crossed by three sulci; median carina hardly detectable; lateral carinae absent; metazona about one sixth length of prozona, its posterior margin incurved. Prosternal process transverse, spathulate, widening and slightly inflated in apical part. Mesosternal interspace very small, inverse triangular, closed. Metasternal interspace very small inverse pyriform, closed. Tympanum, elytra and wings completely absent. Hind femur narrow, slender, exceeds end of abdomen; lobes of hind knee short, obtusely angular. External apical spine of hind tibia present; spurs short, inner pair being slightly longer than outer pair. Hind tarsus elongated, slender. Arolium



large. Male supra-anal plate elongate, narrow-angular. Cercus comparatively long, narrow, almost cylindrical, with apex rounded. Subgenital plate narrow conical.

Phallic complex: apical valves of penis large and wide, of irregular form, at apex rounded; valves of cingulum fused together, shorter than valves of penis; flexure thin and very short; basal valves of penis large, strongly expanded outwards; gonopore processes long and narrow; zygoma of cingulum large; apodemes comparatively short, U-shaped, slightly widened at ends. Epiphallus divided in middle, without ancore, without lateral plates and with large, hook-shaped, curved inwards lophi.

(Female unknown.)

Type species: *Acutacris viridis* sp. n.

This peculiar genus, as with most Madagascar genera of Acridoidea, is difficult to place into the system. According to the structure of the phallic complex the new genus belongs to the group with flexured valves of penis. There are several subfamilies which possess this character. After analysing all other characters of the phallic complex and all external characters of the genus, it became clear that the only subfamily into which this genus could be placed was the subfamily Tropidopolinae, with which it shares poorly developed flexure of the valves of penis, peculiar structure of epiphallus which sometimes occurs in this subfamily, and closed mesosternal interspace.

*Acutacris* has no clear affinity with any known genus of this subfamily.

### *Acutacris viridis* sp. n.

(Fig. 1.)

♂ (Type). Antenna 22-segmented; segments of flagellum twice as long as their width. Integument with few hairs. Front and middle legs comparatively short.

General colouration yellowish-green; antenna blackish, with three middle segments orange-brown; from apex of fastigium of vertex, along postocular space, middle of lateral lobe of pronotum and along whole side of abdomen runs narrow brownish stripe; anterior and middle femora with wide, red preapical rings; hind tibia blue; spines greyish, with brown apices.



Only males known.

Length of body 21.0; width of body 2.3; pronotum 2.7; hind-femur 10.4 mm.

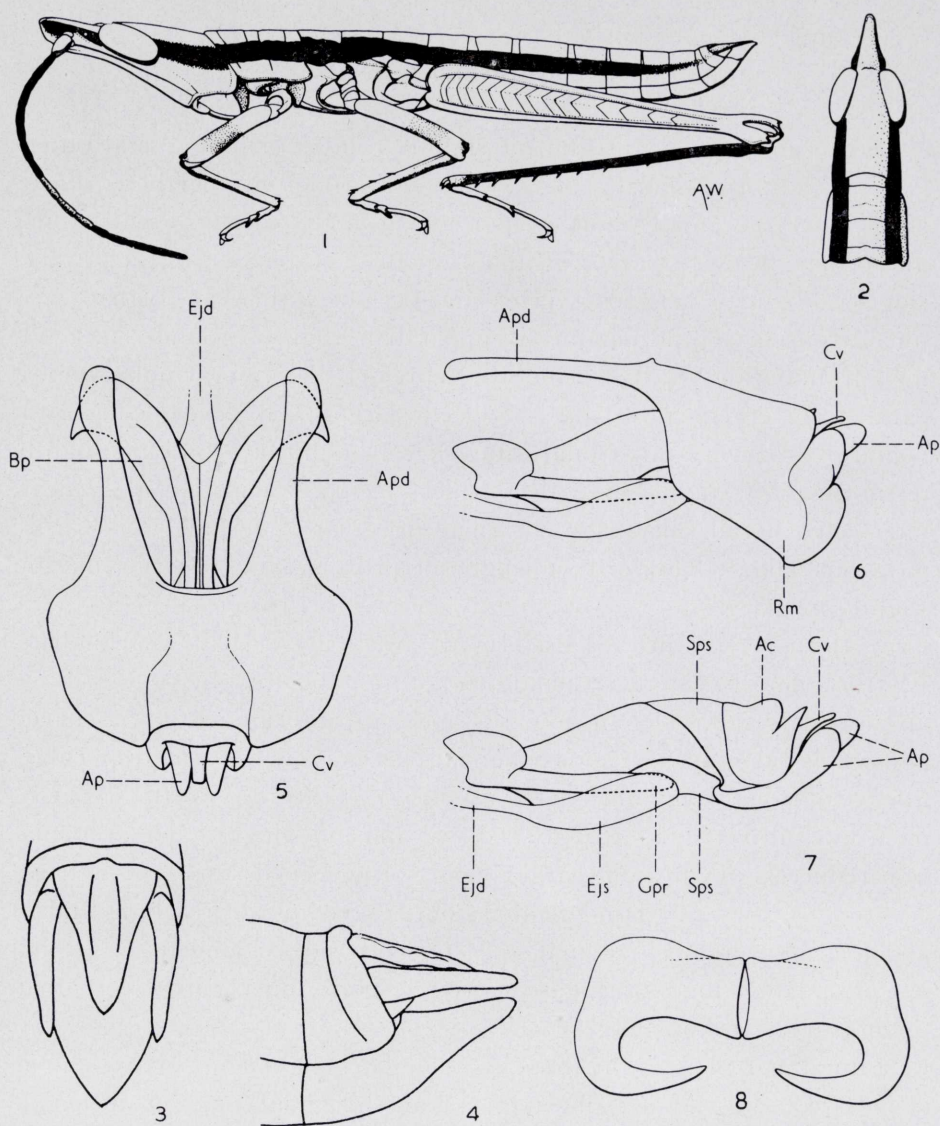


Fig. 1.—*Acutacris viridis*: 1) male; 2) head and pronotum, from above; 3) end of male abdomen, from above; 4) the same, lateral view; 5-8) phallic complex; 5) dorsal view (epiphallus and ectophallic membrane removed); 6) the same, lateral view; 7) endophallus (most of cingulum removed), lateral view; 8) epiphallus.



Madagascar, Reg. S. E.: Ivondro, I.1939, 2 ♂♂ (paratypes), XII. 1938, 1 ♂ (Type) (A. Seyrig).

Type and one paratype in the Paris Museum. One paratype in the British Museum (Natural History).

### *Serpusiformia* gen. n.

Small and stout. Integument slightly rugose, granulose and pitted. Antenna filiform, shorter than head and pronotum together. Fastigium of vertex small, short, trapezoidal, roundly merging with frons; interocular distance narrower than antennal scape, with pair parallel ridges and sulcus between; vertex and occiput with weak median carinula; frons in profile oblique, in upper half slightly, roundly protruding; frontal ridge narrow, slightly depressed, lateral carinulae almost parallel, divergent downwards. Ocelli large, well developed. Compound eyes large, oval strongly convex. Dorsum of pronotum slightly tectiform, crossed by three deep sulci; median carina strong, linear, intersected by all sulci; lateral carinae irregular, diverging backwards; metazona about one third of length of prozona, its posterior margin slightly incurved; lateral lobe slightly concave. Prosternal process very large, transverse, inclined backwards, with apex shallowly bilobate. Elytron lobiform, lateral, reaching end of first abdominal tergite, narrow at basal part and widening towards apex, its anterior margin excurved and whole remigium expanded; vannal part narrow, separated by ridge-like vein from remigium; apex rounded. Texture of elytron parchment-like, all venation strongly reduced and indistinguishable; reticulation reduced. Tympanum large, open, not deepened, almost completely covered by elytron. Hind femur stout, exceeding or reaching end of abdomen; lower lobes of hind knee on both sides rounded. External apical spine of hind tibia absent; spurs short, inner pair longer than outer pair. Arolium large.

Supra-anal plate in both sexes elongate angular. Cercus simple, acutely conical. Male subgenital plate short, subconical; in female apex obtuse-angular. Ovipositor short, moderately robust, valves slightly curved at apices.

Phallic complex: apical valves of penis long and slender, acute at apices; valves of cingulum long and slender, exceeding apices of apical valves, at apices acute; both pair partly, above completely, covered by



sheath; flexure very short poorly developed; basal valves of penis large, expanded outwards at ends; gonopore processes long and narrow; zygomata of cingulum short; apodemes short, stout, forming arch-shaped structure. Epiphallus with short, rather wide bridge; ancorae short, angular; lophi wide, lobiform, upcurved.

Type species: *Serpusiformia malagassa* sp. n.

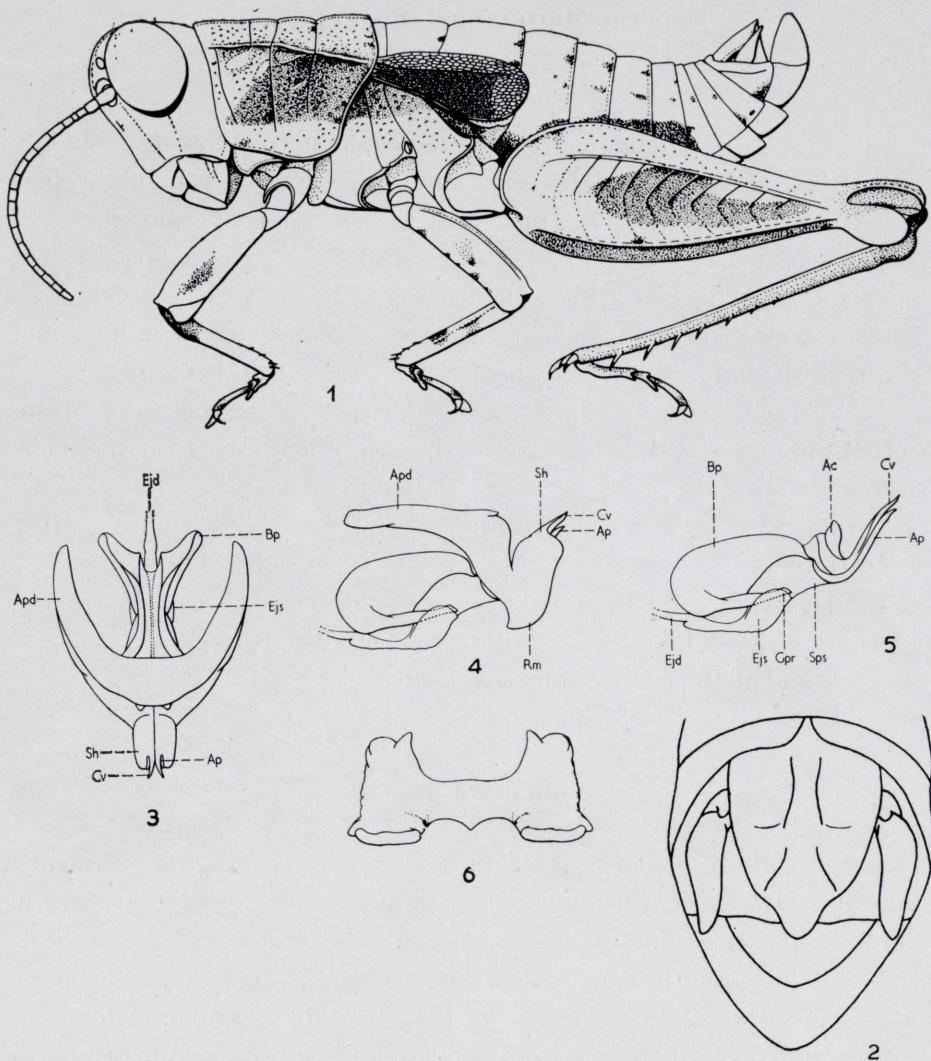


Fig. 2.—*Serpusiformia malagassa*: 1) male, type; 2) end of male abdomen, from above; 3-6) phallic complex; 3) dorsal view (epiphallus and ectophallus membrane removed); 4) the same lateral view; 5) endophallus (most of cingulum removed), lateral view; 6) epiphallus.



Superficially the new genus is similar to the *Serpusilla* group of genera (Dirsh 1962), however, the structure of the phallic complex is different, and as a result the *Serpusiformia* cannot be placed into any of the known genera and cannot even be considered as closely related with any of them. At present the only possible solution is to place it into the *Serpusia* group of the subfamily *Catantopinae*.

***Serpusiformia malagassa* sp. n.**

(Fig. 2.)

♂ (Type). Antenna 19-segmented. Prosternal process slightly longer than its width. Metasternal interspace inverse triangular, open.

General colouration brownish; lateral lobe of pronotum, in lower posterior part blackish; remigium of elytron black, except apical third; outer and inner medial area of hind femur with blackish, not very well defined stripe; lower outer marginal area brown, corresponding inner area reddish; hind tibia greyish-brown.

♀. Much larger than the male. Antenna 20-segmented. Mesosternal interspace wider than its length. In other respects as the male.

Length of body ♂ 17.0, ♀ 31.0; width of body ♂ 4.4, ♀ 7.0; pronotum ♂ 4.4; ♀ 6.5; elytron ♂ 4.0, ♀ 5.0; hind femur ♂ 10.6, ♀ 16.0 mm.

Madagascar: Ankarafantsika (Forest Reserve), near Marovoay, 1.XII.1959, 1 ♂ (Type), 1 ♀ (Allotype) (Dr. E. S. Ross).

Type and allotype in Californian Academy of Sciences.

***Vohemara* gen. n.**

Large. Body slender. Integument moderately rugose. Antenna filiform. Head obtusely conical. Fastigium of vertex short, angular in middle with wide longitudinal sulcus, at base transversely depressed; frons oblique, slightly excurved, frontal ridge; in upper half low, with sides slightly excurved, strongly narrowed at apex, without lateral carinulae and with shallow depression at ocellus; in lower half almost obliterated. Ocelli well developed. Compound eyes, strongly convex, slightly oval. Pronotum cylindrical; median carina weak, irregular, traceable in front of second sulcus and in metazona; four sulci cross dor-



sum; posterior margin of metazona widely roundly excurved. Prosternal process exist (destroyed). Mesosternal interspace longer than its width, constricted in middle; mesosternal lobes short rounded. Metasternal interspace comparatively large, inverse triangular. Tympanum well developed, not deepened. Elytra and wings almost reach end of abdomen; membrane of elytron parchment-like; veins well developed, rather convex. Hind femur slender, not reaching end of abdomen; lower lobes of hind knee rounded. Spines of hind tibia rather sparse, external apical spine present; spurs rather short, outer pair being shorter than inner one. Hind tibia elongated. Arolium large. Ovipositor moderately long, with valves slender and slightly curved at apices. (Male not known).

Type species: *Vohemara hysielloides* sp. n.

This genus is one of the remarkable new genera from Madagascar and its systematic position is doubtful. Unfortunately the holotype is a female (male is still unknown) and this complicates the problem even more.

The venation of elytron suggests affinity with the subfamily *Catantopinae*. The general appearance, shape of fastigium of vertex and four transverse sulci crossing dorsum are very similar to the wingless genus *Hysiella*.

Until more material is collected and the phallic complex investigated further, this genus is temporarily placed into the heterogenous subfamily *Catantopinae*.

### *Vohemara hysielloides* sp. n.

(Fig. 3.)

♀ (Type). Antenna filiform (broken). Integument, and particularly hind tibia, hairy. Supra-anal plate elongate, angular, at apex rounded. Cercus narrow, almost cylindrical, slightly narrowed at rounded apex. Subgenital plate trilobate, middle lobe being angular and lateral lobes much shorter and rounded.

General colouration dark brown; antenna black; middle of frons, gena, lower side of lateral lobe of pronotum, middle part of pleura and most of lower part of outer side of hind femur with wide, continuous, ochraceous stripe; sides and ventral part of abdomen ochraceous, wing



bluish, with edges infumate; inner side of hind femur bright red; hind tibia and tarsus greyish-blue.

Length of body ♀ 42·0; width of body 17·2; pronotum 8·0; elytron 30·4; hind femur 19·0 mm.

Madagascar: Vohemar, 1 ♀ (holotype) (Le Moult).

Holotype in Instituto Español de Entomología, Madrid.

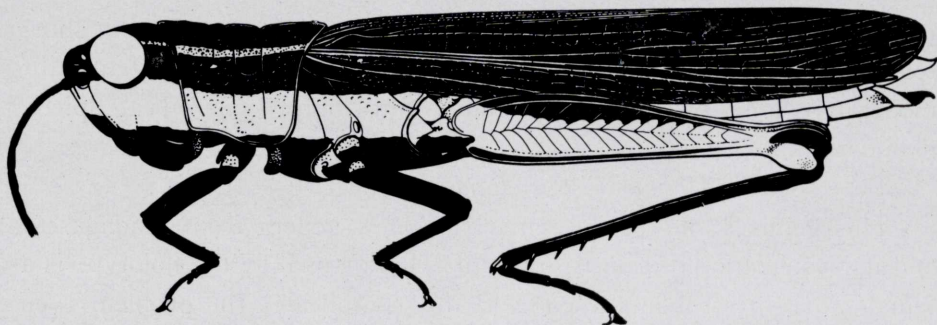


Fig. 3.—*Vohemara hysielloides*. Type, ♀.

### ***Hysiella flavovittata* sp. n.**

(Fig. 4.)

♂ (Type). Of medium size. Integument shiny, rugose and pitted. Antenna 21-segmented, much longer than head and pronotum together. Fastigium of vertex acute-angular, in middle with longitudinal sulcus; vertex with weak carinula, which merges with occipital carinula. Pronotum cylindrical; four transverse sulci deep and wide, three posterior ones cross weak, median carinula; metazona one fourth as long as prozona, its posterior margin slightly incurved. Traces of rudimentary tympanum present.

Phallic complex: apical valves of penis long, moderately slender, slightly upcurved, with apices obtuse; valves of cingulum similar to apical valves of penis, but more upcurved and more elongate, both completely covered by sheath; flexure long and thick; basal valves of penis comparatively short, robust diverging at ends; gonopore process short, wide, at apex upcurved; zygoma of cingulum comparatively long; apodemes long, almost parallel, widened at apices. Epiphallus with narrow



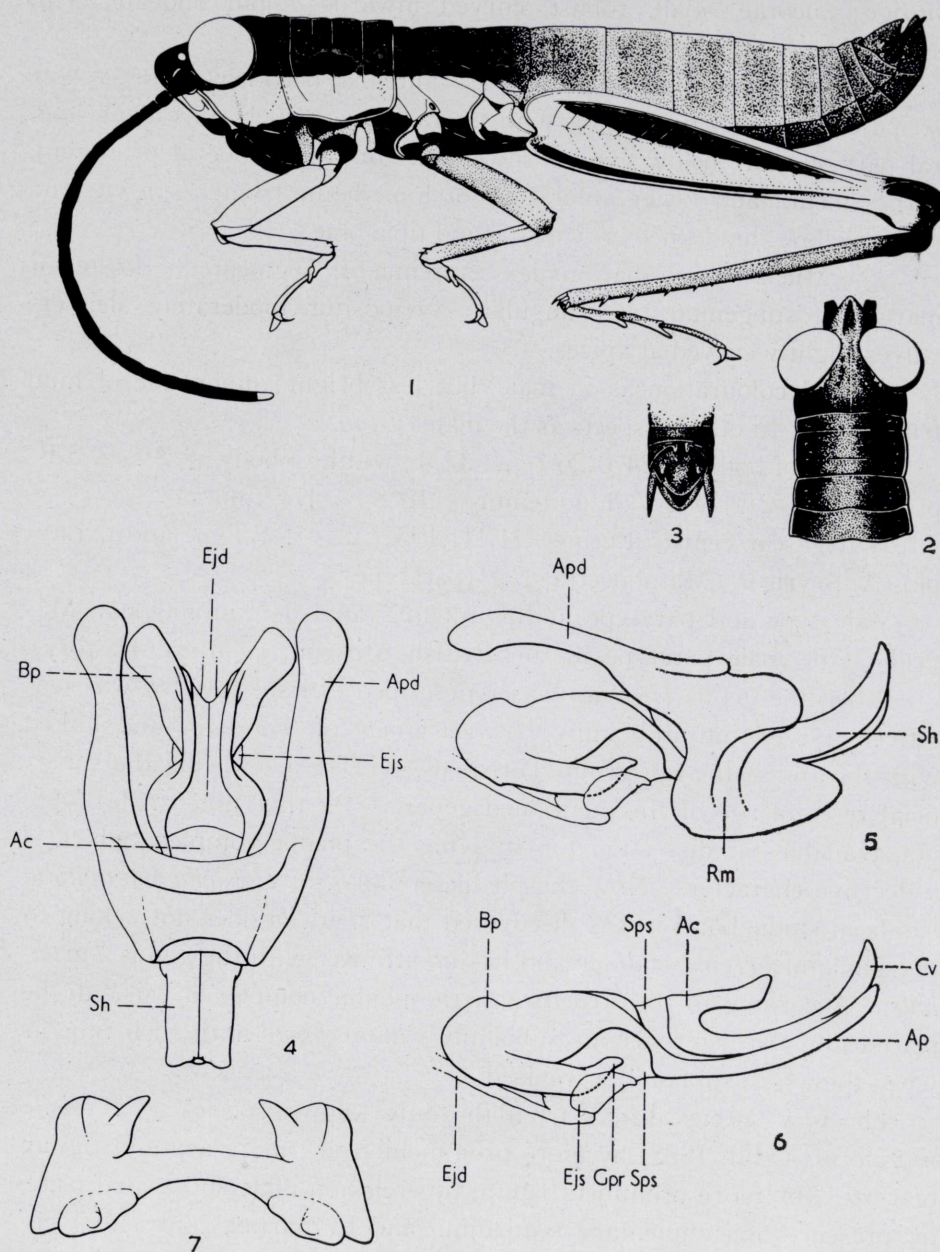


Fig. 4.—*Hysiella flavovittata*: 1) male, type; 2) head and pronotum from above; 3) end of abdomen, dorsal view. 4-7) phallic complex; 4) dorsal view (epiphallus and ectophallic membrane removed); 5) the same, lateral view; 6) endophallus (most of cingulum removed), lateral view; 7) epiphallus.



bridge; ancorae small, robust, curved inwards; lophi bilobate, with small lobe on top of larger one.

General colouration greyish-blue; antenna blackish; wide yellow stripe cross face and merging with lateral stripe which runs along lateral part of head, below eye, on lower part of lateral lobe of pronotum, across pleura and lower outer part of hind femur; inner side of hind femur yellow; hind knee brownish; hind tibia blue.

♀. Much larger than male. Antenna 19-segmented. Posterior margin of subgenital plate angular. Ovipositor moderately slender; valves slightly curved at apices.

General colouration as in male, but less bright; inner side of hind femur red. In other respects as the male.

Length of body ♂ 24.0-26.6, ♀ 37.4; width of body ♂ 2.8, ♀ 5.8; pronotum ♂ 2.9, ♀ 5.7; hind femur ♂ 10.8, ♀ 17.7 mm.

Madagascar centr.: Périnet, II-III.1932, 2 ♂♂ Type and paratype) (A. Seyrig). Maraoncetra, 1 ♀ (paratype).

Male type and paratype in Instituto Español de Entomología, Madrid. One male paratype in the British Museum (Natural History).

When the genus *Hysiella* was redescribed (Dirsh, 1962) it was tentatively placed into subfamily *Hemiacridinae* of *Acrididae* and linked with the Indo-Malayan group *Tarbaleus*. The reason being the superficial resemblance of the mentioned genera. At that time, males were not available for dissection for studying the phallic complex, which is a decisive character. Now the phallic complex of *Hysiella flavovitiata* has been studied and it was discovered that *Hysiella* does not belong to the subfamily *Hemiacridinae* and has no affinity with the genus *Tarbaleus*. According to the structure of the phallic complex it can only be placed into the heterogeneous subfamily *Catantopinae* until such time as when the whole subfamily is revised.

The new species differs from the only known species — *Hysiella nigricornis* (Stål, 1875) by more prominent frons, more acute fastigium of vertex, by more prominent lateral tubercles on male supra-anal plate, by presence of rudimentary tympanum and by darker contrasting colouration.

#### **Lemuracris** gen. n.

Of medium size. Integument finely rugose. Antenna filiform, slightly compressed in basal third, extremely long, about three-quarters



of body length. Head conical; fastigium of vertex acute-angular, longer than its width, at apex obtuse, with median carinula present; slightly concave in middle, and separated from vertex by semi-circular line. Frons strongly oblique, straight; lateral carinulae poorly developed. Ocelli well developed. Pronotum subcylindrical; median and lateral carinae straight, parallel, weakly developed; three sulci cross dorsum and carinae; posterior margin of metazona widely obtusangular. Tympanum well developed, rather deepened in upper-posterior part. Mesosternal interspace about as long as wide, mesosternal lobes short, rounded. Elytra and wings fully developed, exceed end of abdomen; anterior margin of elytron in basal part slightly excurved; reticulation rather sparse; intercalary vein of medial area absent. Wing rather narrow. Hind femur long, narrow, exceed end of abdomen; lower lobes of hind knee angular on both sides. Spines of inner row of hind tibia longer than spines of outer row; external apical spine of hind tibia present; spurs of hind tibia short, but inner pair longer than outer pair. Arolium large. Male supra-anal plate elongate, at apex slightly narrower and rounded. Cercus acutely conical. Subgenital plate subconical, with apex obtuse.

Phallic complex: apical valves of penis long and narrow; valves of cingulum as narrow as apical valves of penis; both covered by sheath; flexure very long and narrow; basal valves of penis slender, strongly expanded outwards; gonopore processes long and narrow, apodemes of cingulum narrow U-shaped. Epiphallus with narrow bridge, small articulated to bridge ancorae and small, finger-like, single lobed lophi.

Type species: *Lemuracris longicornis* sp. n.

This genus belongs to the subfamily *Acridinae* of *Acrididae*. However, to establish its systematic position within the subfamily is very difficult. The unusually long antennae deeply isolate this genus from all other genera of the subfamily. The absence of the fastigial foveolae and sharp edges of the fastigium of vertex, shape of pronotum, rather sparse reticulation of elytra and structure of the epiphallus suggest affinity with the *Orthochtha* group of genera.

### ***Lemuracris longicornis* sp. n.**

(Fig. 5.)

♂ Type. Antenna 22-segmented, with segments from two to four times as long as their width. Compound eyes oval, prominent; fa-

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cial carinulae sharp. Anterior and middle legs narrow. Lower lobes of hind knee narrow angular.

General colouration light green; edges of fastigium of vertex

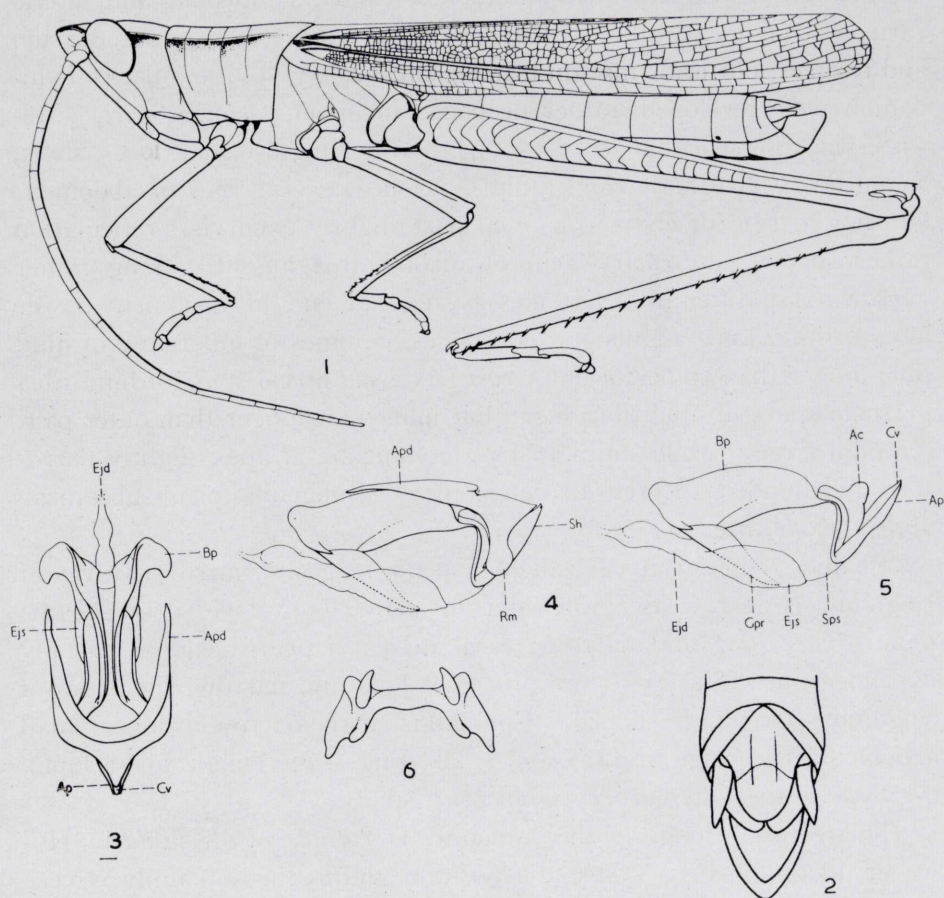


Fig. 5.—*Lemuracris longicornis*: 1) male, type; 2) end of abdomen, dorsal view. 3-6) phallic complex; 3) dorsal view (epiphallus and ectophallic membrane removed); 4) same, lateral view; 5) endophallus (most of cingulum removed), lateral view; 6) epiphallus.

brown; postocular stripe and outer edges of lateral carinae olive-green; membrane of elytra colourless; wings transparent, with very slight bluish tinge; hind tibia light bluish-grey.

Length of body ♂ 30.5; width of body 5.0; pronotum 5.4; elytron 21.0; hind femur 18.5 mm.



Only male known.

Madagascar: Ambadirafia, I.1934, 1 ♂ (Type) (A. Seyrig).

Holotype in the Instituto Español de Entomología, Madrid.

#### References.

DIRSH, V. M.

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